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FILE 'HOME' ENTERED AT 16:58:20 ON 13 APR 2004

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*** YOU HAVE NEW MAIL ***

=> s probes and hybridization
L1 121246 PROBES AND HYBRIDIZATION

=> s l1 and conformation
L2 12665 L1 AND CONFORMATION

=> s l2 and reporter
L3 7251 L2 AND REPORTER

=> s l3 and quencher
L4 1381 L3 AND QUENCHER

=> s l4 and monitoring (2a)fluorescence
L5 52 L4 AND MONITORING (2A) FLUORESCENCE

=> s l5 and ratio (5a) intensities
L6 3 L5 AND RATIO (5A) INTENSITIES

=> d l6 bib abs 1-3

L6 ANSWER 1 OF 3 USPATFULL on STN
AN 2003:207233 USPATFULL
TI Nucleic acid **probes** and methods to detect and/or quantify nucleic acid analytes
IN Davies, Martin, Kent, UNITED KINGDOM
Bruce, Ian, East Sussex, UNITED KINGDOM
Wolter, Andreas, Hamburg, GERMANY, FEDERAL REPUBLIC OF
PA PROLIGO, LLC, Boulder, CO, UNITED STATES, 80301 (non-U.S. corporation)
PI US 2003143591 A1 20030731
AI US 2002-278047 A1 20021021 (10)
PRAI US 2001-336432P 20011019 (60)
DT Utility
FS APPLICATION
LREP SWANSON & BRATSCHUN L.L.C., 1745 SHEA CENTER DRIVE, SUITE 330, HIGHLANDS RANCH, CO, 80129

09567863

CLMN Number of Claims: 60
ECL Exemplary Claim: 1
DRWN 21 Drawing Page(s)
LN.CNT 3575
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention comprises novel methods and strategies to detect and/or quantify nucleic acid analytes. The methods involve nucleic acid **probes** with covalently conjugated dyes, which are attached either at adjacent nucleotides or at the same nucleotide of the probe and novel linker molecules to attach the dyes to the **probes**. The nucleic acid **probes** generate a fluorescent signal upon **hybridization** to complementary nucleic acids based on the interaction of one of the attached dyes, which is either an intercalator or a DNA groove binder, with the formed double stranded DNA. The methods can be applied to a variety of applications including homogeneous assays, real-time PCR monitoring, transcription assays, expression analysis on nucleic acid microarrays and other microarray applications such as genotyping (SNP analysis). The methods further include pH-sensitive nucleic acid **probes** that provide switchable fluorescence signals that are triggered by a change in the pH of the medium.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 2 OF 3 USPATFULL on STN
AN 1999:27394 USPATFULL
TI **Hybridization** assay using self-quenching fluorescence probe
IN Livak, Kenneth J., San Jose, CA, United States
Flood, Susan J. A., Fremont, CA, United States
Marmaro, Jeffrey, Aurora, CO, United States
Mullah, Khairuzzaman Bashar, Union, CA, United States
PA Perkin-Elmer Corporation, Foster, CA, United States (U.S. corporation)
PI US 5876930 19990302
AI US 1995-558303 19951115 (8)
RLI Continuation of Ser. No. US 1994-340558, filed on 16 Nov 1994, now patented, Pat. No. US 5538848
DT Utility
FS Granted
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Riley, Jezia
LREP Wilson Sonsini Goodrich & Rosati
CLMN Number of Claims: 39
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1413
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A **hybridization** assay is provided which uses an oligonucleotide probe which includes a fluorescent **reporter** molecule and a **quencher** molecule capable of quenching the fluorescence of the **reporter** molecule. The oligonucleotide probe is constructed such that the probe exists in at least one single-stranded **conformation** when unhybridized where the **quencher** molecule is near enough to the **reporter** molecule to quench the fluorescence of the **reporter** molecule. The oligonucleotide probe also exists in at least one **conformation** when hybridized to a target polynucleotide where the **quencher** molecule is not positioned close enough to the **reporter** molecule to quench the fluorescence of the **reporter** molecule. By adopting these hybridized and unhybridized conformations, the **reporter** molecule and **quencher** molecule on the probe exhibits different fluorescence signal intensities when the probe is hybridized and unhybridized. As a result, it is possible to determine whether the probe is hybridized or unhybridized

based on a change in the fluorescence intensity of the **reporter** molecule, the **quencher** molecule, or a combination thereof. In addition, because the probe can be designed such that the **quencher** molecule quenches the **reporter** molecule when the probe is not hybridized, the probe can be designed such that the **reporter** molecule exhibits limited fluorescence until the probe is either hybridized or digested.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 3 OF 3 USPATFULL on STN
AN 96:65444 USPATFULL
TI Method for detecting nucleic acid amplification using self-quenching fluorescence probe
IN Livak, Kenneth J., San Jose, CA, United States
Flood, Susan J. A., Fremont, CA, United States
Marmaro, Jeffrey, Foster City, CA, United States
PA Applied Biosystems Division, Perkin-Elmer Corp., Foster City, CA, United States (U.S. corporation)
PI US 5538848 19960723
AI US 1994-340558 19941116 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Rees, Dianne
LREP Haynes & Davis
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 685
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method is provided for monitoring the progress of nucleic acid amplifications that rely on a nucleic acid polymerase having 5'→3' exonuclease activity. An important feature of the method is providing an oligonucleotide probe having a **reporter** molecule and a **quencher** molecule at either end such that the **quencher** molecule substantially quenches any fluorescence from the **reporter** whenever the oligonucleotide probe is in a single stranded state and such that the **reporter** is substantially unquenched whenever the oligonucleotide probe is in a double stranded state hybridized to a target polynucleotide.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 16:58:40 ON 13 APR 2004
L1 121246 S PROBES AND HYBRIDIZATION
L2 12665 S L1 AND CONFORMATION
L3 7251 S L2 AND REPORTER
L4 1381 S L3 AND QUENCHER
L5 52 S L4 AND MONITORING (2A) FLUORESCENCE
L6 3 S L5 AND RATIO (5A) INTENSITIES

=> s l5 and intensities (10a) ratio
L7 5 L5 AND INTENSITIES (10A) RATIO

=> s l7 not l6
L8 2 L7 NOT L6

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=> d l8 bib abs 1-2

L8 ANSWER 1 OF 2 USPATFULL on STN
AN 2001:112052 USPATFULL
TI Detection of nucleic acids by strand displacement
IN Nadeau, James G., Chapel Hill, NC, United States
Hsieh, Helen V., Durham, NC, United States
Pitner, J. Bruce, Durham, NC, United States
Linn, C. Preston, Durham, NC, United States
PA Becton, Dickinson and Company, Franklin Lakes, NJ, United States (U.S. corporation)
PI US 6261784 B1 20010717
AI US 2000-599164 20000622 (9)
RLI Continuation of Ser. No. US 1999-235583, filed on 22 Jan 1999, now patented, Pat. No. US 6130047 Continuation of Ser. No. US 1997-933749, filed on 23 Sep 1997, now patented, Pat. No. US 5935791
DT Utility
FS GRANTED
EXNAM Primary Examiner: Horlick, Kenneth R.
LREP Highet, David W.
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 1086
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Detector nucleic acids are employed for detection of nucleic acid target sequences by fluorescence quenching mechanisms. The detector nucleic acid comprises at least two oligonucleotides and is partially single-stranded and partially double-stranded. One of the two dyes of a donor/acceptor dye pair is linked to the first oligonucleotide and the other is linked to a second oligonucleotide such that they are in close spatial proximity when the first and second oligonucleotides are base-paired and donor fluorescence is quenched. A single second oligonucleotide may be hybridized to the first oligonucleotide or multiple second oligonucleotides may be hybridized to the first oligonucleotide and to each other, forming a junction structure comprising multiple donor/acceptor dye pairs. The detector oligonucleotide retains its partially single-stranded and partially double-stranded **conformation** in the absence of target. In the presence of target, however, the second oligonucleotide(s) of the detector nucleic acid is/are completely or partially displaced from the first, increasing the distance between the donor and acceptor dyes and causing a change in fluorescence which may be detected as an indication of the presence of the target sequence.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 2 OF 2 USPATFULL on STN
AN 2000:134714 USPATFULL
TI Detection of nucleic acids by fluorescence quenching
IN Nadeau, James G., Chapel Hill, NC, United States
Hsieh, Helen V., Durham, NC, United States
Pitner, J. Bruce, Durham, NC, United States
Linn, C. Preston, Durham, NC, United States
PA Beckon, Dickson and Company, Franklin Lakes, NJ, United States (U.S. corporation)
PI US 6130047 20001010
AI US 1999-235583 19990122 (9)
RLI Continuation of Ser. No. US 1997-933749, filed on 23 Sep 1997, now patented, Pat. No. US 5935791
DT Utility

09567863

FS Granted
EXNAM Primary Examiner: Horlick, Kenneth R.
LREP Fugit, Donna R.
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 1265
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Detector nucleic acids are employed for detection of nucleic acid target sequences by fluorescence quenching mechanisms. The detector nucleic acid comprises at least two oligonucleotides and is partially single-stranded and partially double-stranded. One of the two dyes of a donor/acceptor dye pair is linked to the first oligonucleotide and the other is linked to a second oligonucleotide such that they are in close spatial proximity when the first and second oligonucleotides are base-paired and donor fluorescence is quenched. A single second oligonucleotide may be hybridized to the first oligonucleotide or multiple second oligonucleotides may be hybridized to the first oligonucleotide and to each other, forming a junction structure comprising multiple donor/acceptor dye pairs. The detector oligonucleotide retains its partially single-stranded and partially double-stranded **conformation** in the absence of target. In the presence of target, however, the second oligonucleotide(s) of the detector nucleic acid is/are completely or partially displaced from the first, increasing the distance between the donor and acceptor dyes and causing a change in fluorescence which may be detected as an indication of the presence of the target sequence.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.